Claims

What is claimed:

1. A device for delivering channels of presentation streams in a television service network environment to subscribers, the device comprising:

a plurality of routing units, each routing unit for receiving a set of presentation streams corresponding to a programming channel, each of the presentation streams in each set carrying the same programming data but different advertisements corresponding to different market segments,

wherein at least one of the routing units selectively switches between the presentation streams in the set to deliver one of the presentation streams in the set to said subscribers.

2. The device of claim 1, wherein each of the routing units includes:

an ad location detector for detecting an advertisement insertion point in a presentation streams in the set and generating a detection signal indicating this detection,

a selector, coupled to the detector, for selecting one of the presentation streams in the set that is most appropriate in response to the detection signal, and

a switch, coupled to the selector, for delivering the selected presentation stream to the subscribers.

3. The device of claim 2, wherein the ad location detector detects the ad insertion point by detecting a cue tone present in one of the presentation streams in the set.

4. The device of claim 2, wherein the ad location detector detects the ad insertion point based on scheduled avail time.

5. The device of claim 2, wherein, when the ad insertion point is detected by the ad location detector, the selector compares market segments associated with the ads in the presentation streams with characteristics associated with at least one subscriber serviced by said device, identifies a presentation stream that is most appropriate based on said comparison and generates a switching signal to the switch to deliver the identified presentation stream.

6. The device of claim 5, wherein then the selector identifies one of the presentation streams in the set to be a default presentation stream and generates a switching signal to the switch to select the default presentation stream if said comparison does not identify a presentation stream.

7. The device of claim 1, wherein the routing units receive the presentation streams through a delivery network, wherein the delivery network is one of the following: analog cable network, digital broadcast satellite (DBS) network, digital cable network, switched digital video (SDV) network, hybrid fiber coaxial (HFC) cable network, or the Internet.

8. The device of claim 1, wherein the device is located at a cable node in a cable TV system.

9. The device of claim 1, wherein the device is located at a head end of a television programming delivery system.

10. The device of claim 1, wherein the device is located at a set top box.

11. The device of claim 1, wherein the device is located at a Universal Service Access Multiplexer (USAM) device in a Switched Digital Video (SDV) system.

12. The device of claim 1, wherein each of the presentation streams carries the advertisements directed to advertiser-specific market segments defined by different advertisers.

13. The device of claim 1, wherein each of the presentation streams carries the advertisements directed to different fixed market segments.

14. A system for delivering channels of presentation streams carrying targeted advertisements to subscribers in a television service network environment, the system comprising:

a generator for generating a set of presentation streams for each of a plurality of programming channels, each of the presentation streams in each set carrying the same programming data but different advertisements directed to different market segments; and

a plurality of local routing stations coupled to the generator, each local routing station receiving the sets of presentation streams and selectively switching between the presentation streams in each set to deliver one presentation stream for at least one programming channel to at least one subscriber associated with said routing station.

15. The system of claim 14, further comprising:

an ad scheduler, coupled to the generator, for providing to the generator a schedule of advertisements to be included in the presentation streams for each set; and

a storage unit, coupled to the generator, for storing a library of advertisements and providing said advertisements to be included in the presentation streams for each set.

16. The system of claim 15, wherein the ad scheduler prepares the schedule of advertisements based on market segment information, avail and ad information and subscriber information.

17. The system of claim 16, wherein the market segment information identifies advertiser-specific market segments for all advertisers associated with the library of advertisements.

18. The system of claim 14, wherein each of the presentation streams in each set carries advertisements directed to advertiser-specific market segments defined by different advertisers.

19. The system of claim 14, wherein each of the presentation streams in each set carries advertisements directed to different fixed market segments.

20. The system of claim 14, further comprising:

a delivery network, coupled to the generator and local routing stations, for delivering the sets of presentation streams from the generator to the local routing stations.

21. The system of claim 20, wherein the delivery network is one of the following: analog cable network, digital broadcast satellite (DBS) network, digital cable network, switched digital video (SDV) network, hybrid fiber coaxial (HFC) cable network, or the Internet.

22. The system of claim 14, wherein each of the routing stations includes a plurality of routing units, each routing unit receiving one set of presentation streams; and

wherein each routing unit includes,

an ad location detector for detecting advertisement location points in at least one of the presentation streams in the designated set,

a selector, coupled to the detector, for selecting one of the presentation streams in the designated set that is most appropriate for at least one subscriber served by said routing station in response to the detection results from the ad location detector, and

a switch, coupled to the selector, for delivery the selected presentation stream to the subscriber.

23. The system of claim 22, wherein, in each routing unit, the ad location detector detects the ad location point by detecting a cue tone present in one of the presentation streams in the designated set.

24. The system of claim 22, wherein, in each routing unit, the ad location detector detects the ad location point based on scheduled avail time.

25. The system of claim 22, wherein, in each routing unit, when the ad location point is detected by the ad location detector, the selector compares market segment characteristics associated with the ads inserted in the presentation streams, with characteristics associated with the subscribers served by the corresponding routing station, identifies a presentation stream that is most appropriate for the subscribers based on said comparison, and generates a switching signal to the switch to select the identified presentation stream.

26. The system of claim 25, wherein the selector identifies one of the presentation streams in the set to be a default presentation stream and generates a switching signal to the switch to select the default presentation stream if said

comparison does not identify the most appropriate presentation stream.

27. The system of claim 14, wherein each routing station is located at a cable node in a cable TV system.

28. The system of claim 14, wherein each routing station is located at a set top box.

29. The system of claim 14, wherein each routing station is located at a Universal Service Access Multiplexer (USAM) device in a Switched Digital Video (SDV) system.

30. The system of claim 14, wherein the routing stations are located at a head end of a television programming delivery system.

31. A method for delivering channels of presentation streams carrying targeted advertisements to subscribers in a television service network environment, the method comprising the steps of:

generating a set of presentation streams for each of a plurality of programming channels, each of the presentation streams in each set carrying the same programming data but

different advertisements directed to different market segments;

delivering the sets of presentation streams to a plurality of local routing stations; and

selectively switching, by at least one of the local routing stations, between the presentation streams in each set to deliver one presentation stream for at least one programming channel to at least one subscriber.

32. The method of claim 31, further comprising the steps of:

generating a schedule of advertisements to be included in the presentation streams for each set; and

storing a library of advertisements to be included in the presentation streams for each set.

33. The method of claim 32, wherein the step of generating the schedule generates the schedule of advertisements based on market segment information, avail and ad information, and subscriber information.

34. The method of claim 33, wherein the market segment information identifies advertiser-specific market segments for all advertisers associated with the library of advertisements.

35. The method of claim 31, wherein the delivery step delivers the sets of presentation streams through one of the following: analog cable network, digital broadcast satellite (DBS) network, digital cable network, switched digital video (SDV) network, hybrid fiber coaxial (HFC) cable network, or the Internet.

36. The method of claim 31, wherein each of the routing stations includes a plurality of routing units, each routing unit receiving one set of presentation streams designated for one of the programming channels; and

wherein the switching step includes,

detecting, by at least one routing unit, an advertisement location point for one of the presentation streams in the designated set,

responsive to the detecting step, determining, by the one routing unit, which one of the presentation streams in the designated set is most appropriate for selection; and

selecting, by the one routing unit, the most appropriate presentation stream in the designated set based on results from the determining step.

37. The method of claim 36, wherein the detecting step detects the ad location point by detecting a cue tone present in one of the presentation streams in the designated set.

38. The method of claim 36, wherein the detecting step detects the ad location point based on scheduled avail time.

39. The method of claim 36, wherein the determining step includes:

comparing, by the one routing unit, market segment characteristics associated with the ads inserted in the presentation streams, with characteristics associated with at least one subscriber served by the corresponding routing station; and

identifying a presentation stream carrying an advertisement corresponding to the matched market segment as the most appropriate presentation stream based on the comparison results.

40. The method of claim 39, wherein the determining step further includes:

if the comparing step indicates that there is no match, identifying a default presentation stream in the set as the most appropriate presentation stream.

41. The method of claim 31, wherein, in the switching step, each routing station is located at a cable node in a cable TV system.

42. The method of claim 31, wherein, in the switching step, each routing station is located at a set top box.

43. The method of claim 31, wherein, in the switching step, each routing station is located at a Universal Service Access Multiplexer (USAM) device in a switched digital video (SDV) system.

44. The method of claim 31, wherein the switching step is performed at a head end of a television programming delivery system.

45. The method of claim 31, wherein, in the generating step, each of the presentation streams in each set carries advertisements directed to advertiser-specific market segments defined by different advertisers.

46. The method of claim 31, wherein, in the generating step, each of the presentation streams in each set carries advertisements directed to different fixed market segments.